

Wisconsin's
Capacity Development Program
for
Public Drinking Water Systems
2002 Report to the Governor



Department of Natural Resources
Bureau of Drinking Water & Groundwater
Steve Elmore, Capacity Development Coordinator

TABLE OF CONTENTS

Executive Summary	2
1.1 Introduction	3
2.1 Capacity Development Program Overview	3
2.2 Capacity Development for New Public Drinking Water Systems	4
2.3 Capacity Development for Existing Public Drinking Water Systems ...	5
2.4 Measuring Success & Reporting	8
3.1 Efficacy of the Capacity Development Strategy	9
4.1 Progress Toward Improving the Technical, Managerial, and Financial Capacity of Public Water Systems	10
5.1 Conclusions	11
6.1 Definitions	11

EXECUTIVE SUMMARY

Wisconsin's Capacity Development Program seeks to improve the ability of public water systems to consistently provide safe drinking water to the people of this state. This proactive program aims to assist public drinking water system owners and operators by improving their technical, managerial, and financial capabilities. Wisconsin Department of Natural Resources (DNR) staff are currently implementing the Capacity Development Program, as required by 1996 amendments to the Safe Drinking Water Act authorized by the U.S. Environmental Protection Agency (EPA).

DNR staff, along with other state agencies, partners and interested non-government organizations, are developing a cohesive process that seeks to identify the needs of public drinking water systems, develop comprehensive solutions, and incorporate the solutions into work plans that sustain program benefits into the future. Wisconsin's Capacity Development Program continues to unify and enhance existing assistance efforts as a means to provide a network of support for our public water system owners and operators so they can best meet new challenges as they arise. This network of people and their on-going activities become the tools in the process of improving the ability of public drinking water systems to provide safe drinking water. Some of these tools are in the form of guidance documents, engineering plan reviews, continuing education sessions or more immediate technical assistance as water system operators continue to bring safe drinking water to Wisconsin's citizens.

Wisconsin's public drinking water systems, particularly small systems, face many complex challenges while consistently providing safe drinking water to the public. Lack of knowledge about considerable state and federal regulations, lack of financial resources, inadequate management, and lack of access to affordable technical solutions are common issues public water systems face. Adequate solutions require a unified, sustained effort by many different agencies and organizations that work with public drinking water systems.

This document compiled for the benefit of the Governor, all members of government, and the public, as required by section 1420(c)(3) of the Safe Drinking Water Act, will address how Wisconsin is meeting those challenges, by reporting on the efficacy of the Capacity Development strategy and progress made toward improving the technical, managerial, and financial capacity of public water systems in the state.

1.1 INTRODUCTION

The 1996 amendments to the Safe Drinking Water Act (SDWA) required states to have a “Capacity Development Program” approved by the U.S. Environmental Protection Agency (EPA). Capacity Development is a program, which helps public drinking water systems strengthen their ability to consistently supply safe drinking water to their customers. The program aims to assist public drinking water systems’ owners and operators, particularly small systems, improve their technical abilities, managerial skills, and financial viability to comply with the SDWA requirements.

The Capacity Development program is a proactive program that seeks increasing ability of the states’ public drinking water systems to provide safe drinking water to its customers. Activities funded directly through the Capacity Development set-aside to the States’ Drinking Water State Revolving Fund (DWSRF) seek to coordinate and unify technical assistance efforts of Wisconsin Department of Natural Resources (DNR), other state agencies, and non-government partner organizations. By working together the Capacity Development Program has been effective.

The following is a status report for the first two years of implementation for Wisconsin’s Capacity Development Program. The report will focus on the efficacy of the Capacity Development strategy and progress toward improving technical capacity, managerial capacity, and financial capacity of the states’ public drinking water systems. Completing this report fulfills federal requirements and allows for the full set-aside dollars to be allotted through the States’ Drinking Water State Revolving Fund (DWSRF).

2.1 CAPACITY DEVELOPMENT PROGRAM OVERVIEW

The Capacity Development Program maintains a focus on small public drinking water systems. The 1996 SDWA amendments include initiatives, such as Capacity Development, to increase the resources available to small public drinking water systems, which often have the most difficult time complying with federal and state regulations. These “small systems,” such as those serving schools, factories, and mobile home parks, often don’t have specialized staff to operate and maintain their infrastructure. Providing water is not typically their primary business. The most common barriers faced by small system owners and operators as they try to acquire and maintain capacity include:

- Lack of technical knowledge about state and federal requirements and how to meet them;
- Lack of access to money;
- Lack of financial planning and management; and
- Lack of affordable technologies to comply with existing and new technologies.

Below is a list of key areas where capacity development could be used as a tool for encouragement and improvement of public drinking water systems in Wisconsin:

- To encourage drinking water system infrastructure evaluation and improvement
- To improve water resource (quality and quantity) evaluations
- To encourage cooperation between state agencies
- To expand operational and managerial expertise to non-municipal drinking water systems
- To improve and expand operator training
- To encourage appropriate financial management and planning

The Capacity Development Program is funded through funds set-aside from the Drinking Water State Revolving Fund (DWSRF) authorized under the Safe Drinking Water Act. A one-time request of the amount of \$400,000 was made in the FY 1997/1998 *Safe Drinking Water Act Intended Use Plan*. This allotment is intended to fund the program through the initial authorization period, which is scheduled to end in May 2003. To date, the DNR reports expenditures of \$185,887.

The Capacity Development Program is organized into a strategy for *new* public drinking water systems and a strategy for *existing* public drinking water systems.

2.2 Capacity Development for New Public Drinking Water Systems

Before public drinking water systems of the state commence construction and operation, a comprehensive attempt is made to ensure ongoing technical, managerial, and financial capacity is achieved. Wisconsin Administrative Code Chapter NR 809 Subchapter VIII requires capacity evaluations for all new community and nontransient noncommunity (NTNC) water systems prior to construction. This code became effective on September 1, 1999. Written guidance targeting technical, managerial, and financial aspects of operating a drinking water system is distributed to owners and operators of small drinking water systems during the capacity evaluation process. A capacity approval and certification is issued to the owner of a new public drinking water system when appropriate plans and the capacity evaluation have been reviewed.

Capacity Development for New Municipal Drinking Water Systems:

A capacity evaluation is required for all new municipal drinking water systems. This type of drinking water system is owned by a city, town, or sanitary district. The evaluation is completed by the DNR as part of the system plan review process. Once the plans and capacity evaluation are approved, DNR staff will send a plan approval letter and capacity certification to the owner.

Capacity Development for New Other-Than-Municipal (OTM) Drinking Water Systems:

A capacity evaluation is completed by DNR staff as part of the plan review process for new OTM drinking water systems. This system type includes mobile home parks and condominium associations. Owners must fill out and sign DNR Form 3300-247 to provide DNR with system capacity information. The capacity evaluation uses much of

the information furnished in the drinking water system plan. Written guidance is given to the administrators of the system to help understand the technical, managerial, and financial responsibilities of owning a drinking water system. Once the plan approval is granted and the capacity evaluation is reviewed, DNR staff will send an approval letter and capacity certification to the system owner.

Capacity Development for New Nontransient Noncommunity (NTNC) Drinking Water Systems:

Owners of new NTNC systems must complete DNR Form 3300-246. This type of system includes schools, day care centers, and factories. Written guidance is given to the administrators of the system to help understand the technical, managerial, and financial responsibilities of owning a drinking water system. The capacity evaluation process for new NTNC systems is divided into two groups, depending on plan review requirements and pumping capacity:

- Systems subject to DNR plan review (pumping capacity greater than 70 gallons per minute, as well as all schools): A capacity evaluation is completed as part of the plan review. Once the plan approval is granted and the capacity evaluation is reviewed, DNR will send an approval letter and capacity certification to the system owner.
- Systems NOT subject to DNR plan review (pumping capacity less than 70 gallons per minute): A capacity evaluation must still be performed prior to system construction. Owners should send the completed capacity evaluation form (3300-246) to the Capacity Development Coordinator. Once the capacity evaluation is reviewed by the DNR, an approval letter with capacity certification will be sent to the system owner.

2.3 Capacity Development for Existing Public Drinking Water Systems

Wisconsin's Capacity Development Program has developed a strategy to address technical, managerial, and financial capacity of existing public drinking water systems. The strategy was submitted to EPA in August of 2000. The strategy is a guide for the state to assist existing public drinking water systems.

To ensure that the technical, managerial, and financial capacity of public water systems is evaluated on a regular basis, DNR is modifying its facility contact, inspection, and evaluation processes. The goal is to create a standardized capacity evaluation format for each type of public water system. The information collected during the capacity evaluation will be used to prioritize which public water systems have capacity deficiencies and may be in need of further assistance. In addition, this information will be compiled and analyzed to determine common problems that occur in public drinking water systems in order to develop assistance to correct these problems.

In Wisconsin, sanitary surveys and inspections are routinely performed at existing public drinking water systems. Sanitary surveys are in-depth investigations of systems to evaluate the adequacy of the water source, facilities, equipment, reporting, operation and maintenance, and operator training. The objective of the survey is to identify any item that may adversely affect the availability or quality of water in a public water system. Annual inspections are performed only at municipal systems that are not scheduled to receive a sanitary survey for that year.

DNR's Capacity Development Coordinator, in conjunction with other Safe Drinking Water Program staff, will prioritize systems with capacity deficiencies on an annual basis. The prioritization process will likely occur in the fall of each year to coincide with other DNR drinking water activities. Prioritization will focus on systems that are out of compliance with the SDWA requirements or that are on the verge of being out of compliance.

Capacity Development Toolbox:

Public drinking water systems in Wisconsin face a variety of challenges in their quest to provide safe drinking water at an affordable cost. However, there are many Safe Drinking Water Act (SDWA) programs and activities that can be used to address the obstacles encountered by existing public systems. These "tools" help systems acquire and/or enhance their technical, managerial, and financial capacity.

A number of capacity building activities and programs already exist. These tools will continue to be used to help public drinking water systems comply with the SDWA requirements. Some Capacity Development tools can be targeted towards specific systems based on the prioritization and capacity evaluation results. For instance, a system that does not have financial capacity may be offered additional, specific guidance on budgeting and long-term planning. Other tools will be used broadly to address common problems that occur with systems statewide, regardless of their capacity development status. One example of this type of tool is the annual mailing of monitoring letters and schedules to all public systems to help these systems plan and budget for upcoming water quality monitoring.

Some of Wisconsin's existing Capacity Development tools include:

Sanitary surveys (all public systems) & annual inspections (municipal systems): Sanitary surveys and inspections provide a comprehensive and accurate record of the components of water systems. Inspectors assess the operating conditions and adequacy of the drinking water system, and determine if past recommendations have been implemented effectively. The sanitary survey is also an opportunity for DNR employees to directly assist drinking water systems in person. The sanitary survey process is currently being revised to be organized around EPA's primary eight elements of a drinking water system and will allow evaluation data to be stored electronically.

DNR plan review: Final plans and specifications must be reviewed and approved by the DNR prior to construction for all municipal and OTM systems and for nontransient noncommunity systems with a pumping capacity greater than 70 gallons per minute.

One-on-one technical assistance from state and local government staff: Staff from municipal, county, and state government offer assistance to systems on a day-to-day basis to ensure that system owners and operators understand the regulations. This includes guidance on consumer confidence reports and maintaining water quality information on the DNR web site.

Department of Commerce plumbing program rules (Comm 82.20): Final plans are required to be reviewed for public water mains, mobile home park private water mains and services, campground water supplies, etc. This review assures safe materials, proper installation, and calculations for adequate sizing for plumbing and other piping.

Technical assistance contractors: The DNR awarded a contract to the Wisconsin Rural Water Association (WRWA) to provide technical assistance to Other-Than-Municipal (OTM) and Nontransient Noncommunity (NTNC) systems. The WRWA provides one-on-one assistance to water system operators, covering a variety of SDWA topics and issues.

Drinking Water System Coalitions: The DNR has contracted the Wisconsin Water Association (WWA) to establish “coalitions” of municipal and OTM water system owners and operators throughout the state. The intent of the coalitions is to create forums where owners/operators may: discuss issues in an informal setting, network with other communities to share ideas and possibly equipment, and receive information on the new regulations from the EPA and review their implications.

Small municipal systems educational sessions: The DNR is working with the University of Wisconsin (UW) to organize and conduct educational sessions for small municipal systems. The sessions, held statewide by the UW, cover a variety of drinking water topics.

Operator certification: Based on the requirements in the 1996 SDWA amendments, all community and NTNC systems must have certified operators. DNR expanded its operator certification program to include the certification of OTM and NTNC systems. People interested in becoming certified must submit an application and successfully pass an examination. Certification needs to be renewed every 3 years.

Safe Drinking Water Loan Program: Wisconsin is using part of its federal Drinking Water State Revolving Fund allotment to provide low-interest loans to eligible municipal water systems. These loans, provided by the state’s Safe Drinking Water Loan Program, may be used for infrastructure improvements. The following systems were awarded loans during the last two fiscal years (FFY 2000/SFY 2001 and FFY 2001/SFY 2002):

Local Governmental Unit	Loan Amount
Ashland, City of (SFY 2001)	\$2,325, 000
Chippewa Falls, City of (SFY 2001)	\$2,257,879
Cedar Grove, Village of (SFY 2002)	\$576, 593
Fairchild, Village of (SFY 2002)	\$165, 000
Footville, Village of (SFY 2002)	\$485, 135
Oshkosh, City of (SFY 2001)	\$4,567,548
Oshkosh, City of (SFY 2002)	\$3,483,913
Plover, Village of (SFY 2002)	\$3,113,760
Port Washington, City of (SFY 2001)	\$539, 587
Port Washington, City of (SFY 2002)	\$1,737,295
Total	\$15,160,395

Other assistance activities: State agencies other than the DNR and many non-profit organizations assist drinking water systems with various programs, education sessions, training, and activities.

Wisconsin is also pursuing some new activities to help public water systems build technical, managerial, and financial capacity:

Additional training & workshops: The DNR would like to expand its public water system owner/operator training and workshop efforts to include a wider variety of Capacity Development topics. In coordination with stakeholders, contractors, and other state agencies, training programs may be developed in the following areas: operation and maintenance, financial planning, as well as comprehensive training about drinking water systems for municipal officials and governing boards.

Additional guidance: The DNR is creating additional guidance and informational materials to help owners, operators, and utility boards effectively manage public water systems.

2.4 Measuring Success & Reporting

On a regular basis, Wisconsin must evaluate the success of its Capacity Development efforts. DNR staff will track the activity in a number of drinking water programs to establish a baseline for measuring improvements in the capacity of Wisconsin's public water systems. The baseline information will provide the groundwork for producing and submitting future capacity development progress reports to the Governor of Wisconsin and the EPA.

3.1 EFFICACY OF THE CAPACITY DEVELOPMENT STRATEGY

The Capacity Development Strategy document has been a good outline of the methods and resources available for assisting public drinking water systems to sustain technical, managerial, and financial capacity. The document has been a source of continuity in an environment that often has a variety of communication challenges due to policy changes, workload, and staff changes. Wisconsin's Capacity Development Program is developing a process to address these types of problems by offering public drinking water systems the tools and methods outlined in the strategy document through a variety of media vehicles. With a process in place, our Capacity Development Program will maintain momentum in addressing problem areas with public drinking water systems of Wisconsin.

Wisconsin's Capacity Development process has begun to identify issues drinking water systems face, address them in an annual work plan, direct resources to the particular issue, coordinate solutions with stakeholder organizations, and finally report changes and outcomes to relevant parties. Issues are being identified in a number of ways, but DNR staff will soon begin to use information collected during the Sanitary Survey process as a primary resource for problem identification. Wisconsin's Capacity Development Coordinator will hold regular work group meetings with partner organizations to receive feedback on problems identified. Annual reports to U.S. EPA will outline key issues the program intends to address and demonstrate how Wisconsin will continue to be part of the national capacity development effort. Safe Drinking Water set-aside funds for Capacity Development as well as resources available through our partners and mentors will be used to address the identified problems. Wisconsin's Capacity Development Coordinator, using a wide variety of tools as outlined in section 2.2 and 2.3, will coordinate solutions. Reporting will reflect lessons learned and outcomes in the given Capacity Development process cycle.

Here is an example of how this process will work:

A DNR, Bureau of Drinking Water & Groundwater staff person will assess data on the DNR drinking water database and talk with technical assistance contractors, such as members of AWWA or WRWA, which might reveal that a majority of drinking water systems in Wisconsin do not have emergency response plans. After meeting and discussing this issue with partner organizations, the Capacity Development Coordinator would assess the need for emergency response planning and include this topic as part of the *Capacity Development Intended Use Plan*. Once this "Intended Use Plan" is approved, funds for Capacity Development would be used to develop solutions such as guidance documents, online training, or continuing education sessions related to developing emergency response plans. If a guidance document is created as a solution, DNR staff or technical assistance contractors could distribute the document by a variety of methods to reach the maximum number of appropriate people. Future data collected through the Sanitary Survey process would reflect outcomes from the assistance provided on emergency response plans. Reports to U.S. EPA would in turn reflect lessons learned in attempting to assist public drinking water systems.

4.1 PROGRESS TOWARD IMPROVING THE TECHNICAL, MANAGERIAL, AND FINANCIAL CAPACITY OF PUBLIC WATER SYSTEMS

The Capacity Development Program has identified areas where improvements in technical, managerial, and financial capacity have been achieved. Some of these areas include:

- Process challenges for Sanitary Surveys,
- Data consistency, storage and retrieval difficulties, and
- Ability of Public Water System owners and operators to develop long-term financial goals, including those affecting staffing and infrastructure needs, that anticipate changes to new regulations.

Development of a new Sanitary Survey process, that includes storing data on the DNR drinking water database (drinking water system), will aid in measuring improvements to technical, managerial, and financial capacity. New regulatory challenges in the near future will soon test the drinking water system's flexibility more completely, however preliminary results indicate this database is adaptable enough to meet the changes and thus has the overall ability to aid in the improvement of the capacity of drinking water systems.

The "Financial Matters" fact sheet developed by Wisconsin's Capacity Development Program staff informs drinking water system owners and operators of their financial responsibilities associated with operating a drinking water system. This document, which is distributed to other-than-municipal and nontransient noncommunity water systems, includes information on typical drinking water system construction costs, water quality monitoring costs, operation and maintenance costs, tools to help meet financial responsibilities, and new and proposed regulations. The fact sheet has been particularly helpful in getting owners of new drinking water systems to understand the significant monitoring costs that will be incurred.

New system evaluations have extended our guidance and review of new drinking water systems to include smaller systems. The owners of these new systems know estimated monitoring costs, operations costs, emergency costs, and source water quality concerns in their area before the drinking water system is constructed. Most importantly, the evaluation gets the owner involved in the process of constructing a new drinking water system, which is often overlooked amid the business of developing a new organization, housing development, or other facility.

While not funded directly by Capacity Development set-aside funds, the technical assistance contracts, which are funded by another Drinking Water State Revolving Fund set-aside, have been key tools in implementation of the Capacity Development program. Technical assistance has been improved through these contracts. Owners and operators have gotten involved in the process of continuing education by choosing the specific topic that would be useful to them. Technical assistance contractors delivered and

explained the “Financial Matters” fact sheet and thus have been an effective avenue for delivering appropriate guidance to drinking water systems around the state.

Revisions to the Sanitary Survey inspection process is key to identification of needs, creation of guidance, and assessing the impacts of technical assistance efforts. Electronic data storage of drinking water system inspection results will allow the Capacity Development coordinator to search a database for systems that need assistance or search for problem issues across the state. Guidance and solutions can be created to address the problems and then the database can be used as an assessment tool to determine the effectiveness of the assistance.

5.1 CONCLUSIONS

Capacity Development for public drinking water systems is a young program that is still developing. Despite the program's relatively new arrival in Wisconsin, positive improvements to technical, managerial, and financial capacity of systems have been demonstrated. There is an extensive number of programs and activities performed by Wisconsin DNR and partner organizations that are all connected, but still remain available as independent tools to the Capacity Development Program. We are on a pathway to an integrated system of identifying inadequacies, determining the best avenue to address problems, and creating solutions that will correct the problems.

New challenges the Capacity Development Program will face in the near future include security concerns, new regulations for water systems that use groundwater, decreasing groundwater quality and quantity, Wisconsin DNR staff turnover due to retirements, and developers who seek to circumvent requirements in order to speed construction and lower costs. The Capacity Development Program, with its proactive approach and wide variety of tools at its disposal, is in a good position to accept these challenges and present appropriate solutions.

For more information contact:

- Steven Elmore, Capacity Development Coordinator, 101 S. Webster St., Madison, WI 53707, Phone: (608) 264-9246, Email: Steve.Elmore@dnr.state.wi.us
- Capacity Development Program on the web:
<http://www.dnr.state.wi.us/org/water/dwg/CapDev1/CapDevIndex.htm>

6.1 DEFINITIONS

Community drinking water system: A public drinking water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. Any public water system serving 7 or more homes, 10 or more mobile homes, apartment units, or condominiums.

Drinking Water State Revolving Fund (DWSRF): Funds used to carry out directives of the Safe Drinking Water Act.

Municipal drinking water system: A community drinking water system that is owned by a county, city, village, town, town sanitary district, utility district, public institution, or a privately owned water utility serving any of the above.

Noncommunity drinking water system: A public drinking water system that is not a community water system.

Nontransient noncommunity (NTNC) drinking water system: A drinking water system that regularly serves at least 25 of the same people over 6 months of the year. Examples include drinking water systems at schools, day care centers, and factories.

Other-Than-Municipal (OTM) drinking water system: A community drinking water system that is not owned by a municipality. Examples include drinking water systems at mobile home parks, apartment buildings, and condominium associations.

Public drinking water system: A system providing water to the public for human consumption through piping, which has at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents for at least 60 days per year. There are four types of public water systems in Wisconsin.

Transient noncommunity (TNC) drinking water system: A drinking water system that serves at least 25 people at least 60 days of the year but does not serve the same 25 people over 6 months of the year. Examples include drinking water systems at restaurants, motels, taverns, parks, and campgrounds.

Safe Drinking Water Act (SDWA): An U.S. Environmental Protection Agency act that seeks to ensure drinking water systems in the U.S. provide safe drinking water.

Sanitary Survey: An in-depth investigation of a drinking water system performed by DNR staff aimed to evaluate the adequacy of the water source, facilities, equipment, reporting, operation and maintenance, and operator training.

Water system: All structures, conduits and appurtenances by means of which water is delivered to consumers except piping and fixtures inside buildings served, and service pipes from building to street main.

The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services, and functions under an Affirmative Action Plan. If you have any questions, please write to Equal Opportunity Office, Department of Interior, Washington, D.C. 20240.

This publication is available in alternative format for visually impaired persons. Please contact Steven Elmore at 264-9246 to request an alternative format.



Bureau of Drinking Water and Groundwater

PUB-DG-071 2002

